

EXHIBIT J

McGraw-Hill Dictionary of **CHEMICAL TERMS**

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On the cover: Photomicrograph of potassium nitrate under high pressure, a specimen contained in a diamond-anvil high-pressure cell. (National Bureau of Standards)

McGRAW-HILL DICTIONARY OF CHEMICAL TERMS
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Consu

trate

retic.

ellow, oily liquid; hygroscopic, it solidifies
ses in excess water; soluble in hydrochloric
esting for cesium and alkaloids, for dyeing,
o known as antimony perchloride.

ygroscopic, moderately viscous fluid; reacts
tion with glacial acetic acid; used in the

ellow powder; soluble in alkali, soluble in
rogen sulfide as a by-product, and insoluble
own as antimony persulfide; antimony red;

hloride.

fide.

sulfate, a white, deliquescent powder; sol-

lorless, crystalline mass; fumes slightly in
forms antimony oxychloride in water; used
id in fireproofing textiles. Also known as
caustic antimony.

3-red rhombic crystals; soluble in concen-
trations, insoluble in water; melting point
es and pyrotechnics. Also known as anti-
needles; antimony orange; antimony sul-

ons and antiprotons in the same way that
ns and protons.

acid, effective in preventing oxidation by

ordinary nucleus with an orbiting antipro-

es which are higher than the frequency of

or relationship to another chemical com-

argentic oxide 31

apoptropine $C_{17}H_{21}NO_2$ An alkaloid melting at 61°C with decomposition of the com-
pound; highly toxic; obtained by dehydrating atropine.

apple essence See isoamyl valerate.

apple oil See isoamyl valerate.

aprotic solvent A solvent that does not yield or accept a proton.

aqua Latin for water.

aqua ammonia See ammonium hydroxide.

aquaforis See nitric acid.

aquamey Analytical processes to measure the water present in materials; methods
include Karl Fischer titration, reactions with acid chlorides and anhydrides, oven
drying, distillation, and chromatography.

aqua regia A fuming, highly corrosive, volatile liquid with a suffocating odor made by
mixing 1 part concentrated nitric acid and 3 parts concentrated hydrochloric acid;
reacts with all metals, including silver and gold. Also known as chloroazotic acid;
chloronitrous acid; nitrohydrochloric acid; nitromuriatic acid.

aquation Formation of a complex that contains water by replacement of other coordi-
nated groups in the complex.

aqueous electron See hydrated electron.

aqueous solution A solution with the solvent as water.

aquo ion Any ion containing one or more water molecules.

Ar See argon.

arabite See arabitol.

arabitol $\text{CH}_2\text{OH}(\text{CHOH})_3\text{CH}_2\text{OH}$ An alcohol that is derived from arabinose; a sweet,
colorless crystalline material present in D and L forms; soluble in water; melts at
 103°C . Also known as arabite.

arachic acid See eicosanoic acid.

arachidic acid See eicosanoic acid.

aralkyl A radical in which an aryl group is substituted for an alkyl H atom. Derived
from arylated alkyl.

arbutin $\text{C}_{12}\text{H}_{16}\text{O}_7$ A bitter glycoside from the bearberry and certain other plants;
sometimes used as a urinary antiseptic.

arc excitation Use of electric-arc energy to move electrons into higher energy orbits.

archen See emodin.

arc spectrum The spectrum of a neutral atom, as opposed to that of a molecule or an
ion; it is usually produced by vaporizing the substance in an electric arc; designated
by the roman numeral I following the symbol for the element, for example, HeI.

arecaine methyl ester See arecoline.

arecoline $\text{C}_8\text{H}_{13}\text{O}_2\text{N}$ An alkaloid from the betel nut; an oily, colorless liquid with a
boiling point of 209°C ; soluble in water, ethanol, and ether; combustible; used as a
medicine. Also known as arecaine methyl ester; methyl-1,2,5,6-tetrahydro-1-
methylnicotinate.

arene See aromatic hydrocarbon.

argentic Relating to or containing silver.

argentic oxide See silver suboxide.

400 solidus

solidus In a constitution or equilibrium diagram, the locus of points representing the temperature below which the various compositions finish freezing on cooling, or begin to melt on heating.

solidus curve A curve on the phase diagram of a system with two components which represents the equilibrium between the liquid phase and the solid phase.

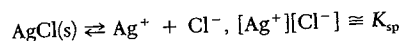
soliquid A system in which solid particles are dispersed in a liquid.

solubility The ability of a substance to form a solution with another substance.

solubility coefficient The volume of a gas that can be dissolved by a unit volume of solvent at a specified pressure and temperature.

solubility curve A graph showing the concentration of a substance in its saturated solution in a solvent as a function of temperature.

solubility product constant A type of simplified equilibrium constant, K_{sp} , defined for and useful for equilibria between solids and their respective ions in solution; for example, the equilibrium



where $[\text{Ag}^+]$ and $[\text{Cl}^-]$ are molar concentrations of silver ions and chloride ions.

solubility test 1. A test for the degree of solubility of asphalts and other bituminous materials in solvents, such as carbon tetrachloride, carbon disulfide, or petroleum ether. 2. Any test made to show the solubility of one material in another (such as liquid-liquid, solid-liquid, gas-liquid, or solid-solid).

soluble Capable of being dissolved.

soluble barbitol See sodium barbitol.

soluble glass See sodium silicate.

soluble glucide See sodium saccharine.

soluble guncotton See pyroxylin.

soluble indigo blue See indigo carmine.

soluble nitrocellulose See pyroxylin.

soluble saccharin See sodium saccharin.

solute The substance dissolved in a solvent.

solution A single, homogeneous liquid, solid, or gas phase that is a mixture in which the components (liquid, gas, solid, or combinations thereof) are uniformly distributed throughout the mixture.

solution pressure 1. A measure of the tendency of molecules or atoms to cross a bounding surface between phases and to enter into a solution. 2. A measure of the tendency of hydrogen, metals, and certain nonmetals to pass into solution as ions.

solutrope A ternary mixture with two liquid phases and a third component distributed between the phases, or selectively dissolved in one or the other of the phases; analogous to an azeotrope.

solvation The process of swelling, gelling, or dissolving of a material by a solvent; for resins, the solvent can be a plasticizer.

solvent That part of a solution that is present in the largest amount, or the compound that is normally liquid in the pure state (as for solutions of solids or gases in liquids).

solvolysis A reaction in which a solvent reacts with the solute to form a new substance.

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